

**MICHIGAN DEPARTMENT OF CIVIL SERVICE  
JOB SPECIFICATION**

**GEOLOGICAL TECHNICIAN**

**JOB DESCRIPTION**

Employees in this job perform geologic support activities related to either the release of hydrogen sulfide gases from oil, gas and mineral wells, or the contamination of the state's groundwater.

There are four classifications in this job.

**Position Code Title – Geological Technician-E**

Geological Technician 8

This is the entry level. In this classification, the employee works in a learning capacity performing a range of geological technician assignments under close supervision.

Geological Technician 9

This is the intermediate level. In this classification, the employee works in a developing capacity with increased responsibility for performing a range of geological technician assignments.

Geological Technician E10

This is the experienced level. In this classification, the employee independently performs a full range of geological technician assignments, and uses considerable independent judgment in making decisions requiring the interpretation and application of guidelines with considerable latitude to specific work situations.

**Position Code Title – Geological Technician-A**

Geological Technician 11

This is the advanced level. In this classification, the employee serves either as a lead worker assigning and overseeing the work activities of other geological technicians, or as a senior worker, performing the most complex assignments beyond those expected at the experienced level which have been approved by Civil Service.

**NOTE:** Employees generally progress through this series to the experienced-level based on satisfactory performance and possession of the required experience.

**JOB DUTIES**

**NOTE:** The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every position are included, nor is it expected that all positions will be assigned every duty.

## **GEOLOGICAL TECHNICIAN**

### **PAGE NO. 2**

Inspects and monitors producing oil, gas and mineral wells for compliance with applicable regulations.

Inspects new wells or facilities that are reported to contain hydrogen sulfide.

Investigates hydrogen sulfide odor complaints.

Participates in the installation of monitor wells to detect groundwater contamination.

Witnesses encapsulation of drilling reserve pits to ensure proper procedures are being followed to minimize loss of contents into the soil and groundwater.

Maintains permanent records and maps on each well and treatment and storage facility in order to gauge hydrogen sulfide levels.

Witnesses and implements testing programs on wells in order to determine that testing equipment meets requirements.

Oversees field plugging operations and gives advice on alternate procedures, methods and materials to use when well plugging problems occur.

Conducts geologic and geophysical studies and field surveys and sets up survey grids.

Operates various geophysical instruments such as seismographs, magnetometers, electrical receptivity instruments, etc.

Field inspects brine injection and production facilities for compliance with applicable requirements.

Samples soil and water in cases of suspected oil and brine contamination.

Decontaminates equipment by using steam, soap, water and solvents for the prevention of cross-contamination while installing monitor wells.

Prepares mining plans for the extraction of rock, sand and gravel.

Conducts hydrogen sulfide safety classes for division employees, industry personnel, and the general public pertaining to drilling, rework, plugging and the production of oil, gas and mineral wells.

Acts to correct conditions that threaten public safety in the event of a hydrogen sulfide emergency by following established procedures and policies.

Investigates and collects geological and technical data for compliance and enforcement activity for the purpose of hearings and court testimony.

## **GEOLOGICAL TECHNICIAN**

**PAGE NO. 3**

Performs related work appropriate to the classification level as assigned.

### **Additional Job Duties**

#### **Geological Technician 11 (Lead Worker)**

Coordinates and oversees the work of lower level geological technicians by scheduling and overseeing work assignments.

Trains personnel in geological technician activities and in the operation and maintenance of geological instruments.

#### **Geological Technician 11 (Senior Worker)**

Performs on a regular basis geological technician activities, which are recognized as the most complex.

### **JOB QUALIFICATIONS**

#### **Knowledge, Skills, and Abilities**

**NOTE:** Some knowledge in the area listed is required at the entry level, developing knowledge is necessary at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of methods of prevention and control of hydrogen sulfide.

Knowledge of petroleum field equipment and machinery.

Knowledge of drilling machine operations.

Knowledge of excavation and earthwork procedures.

Knowledge of groundwater table levels.

Knowledge of pollution investigation methods.

Knowledge of basic mathematics.

Skill in the use of a variety of testing equipment.

Skill in the use of surveying instruments and equipment such as the odolite, level, stadia rod, etc.

Skill in the use of calculators, compasses and meters.

Ability to inspect and monitor well operations.

## **GEOLOGICAL TECHNICIAN**

### **PAGE NO. 4**

Ability to write technical reports.

Ability to investigate and collect geological and technical data.

Ability to conduct hydrogen sulfide safety classes.

Ability to use surveying equipment.

Ability to use petroleum field equipment and machinery.

Ability to read and interpret topographic maps, aerial photos, and compasses.

Ability to make chloride tests.

Ability to differentiate between clean and contaminated material.

Ability to lift heavy loads weighing up to 90 pounds.

Ability to work under extreme hot or cold weather conditions.

Ability to communicate effectively.

Ability to maintain favorable public relations.

### **Additional Knowledge, Skills, and Abilities**

#### **Geological Technician 11 (Lead Worker)**

Ability to organize and coordinate the geological support activities of a specific work area.

Ability to establish priorities, assign and evaluate the work of other geological technicians.

#### **Geological Technician 11 (Senior Worker)**

Ability to perform the most complex geological technician assignments.

### **Working Conditions**

Employees are frequently subject to exposure to hydrogen sulfide environments and other chemicals and by-products associated with the oil and gas industry, or hazardous waste, and are required to use provided protective clothing and equipment.

Work is frequently performed around large drilling rigs and heavy construction machinery, and extensive travel on a statewide basis may be required.

Employees may be required to work under extreme hot or cold weather conditions.

## **GEOLOGICAL TECHNICIAN**

**PAGE NO. 5**

### **Physical Requirements**

Employees must have the ability to lift heavy loads weighing up to 90 pounds.

### **Education**

Possession of an associate's degree in petroleum technology, earth science, or geology.

### **Experience**

#### **Geological Technician 8**

No specific type or amount of experience is required.

#### **Geological Technician 9**

One year of experience performing geological technician assignments.

#### **Geological Technician E10**

Two years of experience performing geological technician assignments.

#### **Geological Technician 11**

Three years of experience performing geological technician assignments, including one year as a Geological Technician E10.

### **Alternate Education and Experience**

Four years of experience in any of the following -- well drilling; service/inspections of pumps, tanks, and water systems; soil and water sampling; well maintenance and repair; welding of pipes and repair of well related equipment; operation of heavy equipment including backhoe, well drilling rig, and related equipment – may be substituted for the educational requirement.

Completion of one year of college (30 semester or 45 term credit hours) AND two years of experience in any of the following -- well drilling; service/inspections of pumps, tanks, and water systems; soil and water sampling; well maintenance and repair; welding of pipes and repair of well related equipment; operation of heavy equipment including backhoe, well drilling rig, and related equipment – may be substituted for the educational requirement.

### **Special Requirements, Licenses, and Certifications**

Some positions within this job are assigned job duties that may require possession of the Commercial Driver's License (CDL) issued by the Secretary of State as required by Public Act 346 of 1988 to operate a designated state vehicle.

**GEOLOGICAL TECHNICIAN**

**PAGE NO. 6**

**NOTE:** Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

**JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION**

<b><u>Job Code</u></b>	<b><u>Job Code Description</u></b>	
GEOLOGTCH	Geological Technician	
<b><u>Position Title</u></b>	<b><u>Position Code</u></b>	<b><u>Pay Schedule</u></b>
Geological Technician-E	GEOLTCHE	L32-006
Geological Technician-A	GEOLTCHA	L32-012

ECP Group 1  
8/20/2000, 11/8/2001  
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